Metal-Mesh Optical Filter Technology for Mid IR, Far IR, and Submillimeter, Phase II

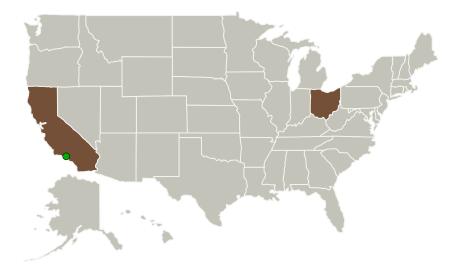


Completed Technology Project (2011 - 2013)

Project Introduction

The innovative, high transmission band-pass filter technology proposed here is an improvement in multilayer metal-mesh filter design and manufacture for the far IR to submillimeter ranges. The proposed metal-mesh filters can tolerate cryogenic temperatures (down to 4K and below) and a wide vibration/shock spectrum, making them launch-capable and durable for long periods in space. In addition, the proposed band-pass filters are light weight, as they employ no heavy substrates. The proposed 2 \bullet 5 mm thickness (mostly the mounting frame) allows insertion into tight spaces and standard filter wheels. The thin, light weight, vacuum compatible design can be incorporated into almost any detector setup. Large sizes can be manufactured for newer instruments with larger diameter beams.

Primary U.S. Work Locations and Key Partners



Organizations Performing Work	Role	Туре	Location
Lake Shore	Lead	Industry	Westerville,
Cryotronics, Inc.	Organization		Ohio
Jet Propulsion	Supporting	NASA	Pasadena,
Laboratory(JPL)	Organization	Center	California



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Small Business Innovation Research/Small Business Tech Transfer

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Primary U.S. Work Locations	
California	Ohio

Project Transitions

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June 2011: Project Start



May 2013: Closed out

Closeout Documentation:

• Final Summary Chart(https://techport.nasa.gov/file/139086)

Organizational Responsibility

Responsible Mission Directorate:

Space Technology Mission Directorate (STMD)

Lead Organization:

Lake Shore Cryotronics, Inc.

Responsible Program:

Small Business Innovation Research/Small Business Tech Transfer

Project Management

Program Director:

Jason L Kessler

Program Manager:

Carlos Torrez

Principal Investigator:

William R Mcgovern

Co-Investigator:

William Mcgovern

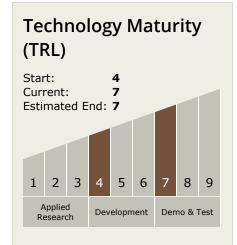


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Technology Areas

Primary:

- TX08 Sensors and Instruments
 - □ TX08.1 Remote Sensing Instruments/Sensors
 - └─ TX08.1.3 Optical Components

Target Destinations

The Sun, Earth, The Moon, Mars, Others Inside the Solar System, Outside the Solar System

